UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO. : 7,668,312 B2 Page 1 of 3 APPLICATION NO. : 10/552384

DATED : February 23, 2010 INVENTOR(S) : Lecomte et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

The title page should be deleted to be replaced with the attached title page.

Please insert the attached "Figure" as the sole drawing of the application.

This certificate supersedes the Certificate of Correction issued June 15, 2010.

Signed and Sealed this

Twentieth Day of July, 2010

David J. Kappos Director of the United States Patent and Trademark Office

(12) United States Patent Lecomte et al.

(10) Patent No.:

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(54) SCRAMBLING, DESCRAMBLING AND SECURE DISTRIBUTION OF AUDIO-VISUAL SEQUENCES FROM VIDEO ENCODERS BASED ON WAVELET PROCESSING

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(*) Notice: Subject to any disclaimer, the term of this

patent is extended or adjusted under 35

U.S.C. 154(b) by 556 days.

This patent is subject to a terminal disclaimer.

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(58) Field of Classification Search None

See application file for complete search history.

(56) References Cited

U.S. PATENT DOCUMENTS

6,370,197	Bl	4/2002	Clark et al.
6,571,014	B1 *	5/2003	Larkin 382/232
7,382,969	B2 *	6/2008	Dawson
2001/0053222	ΑI	12/2001	Wakao et al.

FOREIGN PATENT DOCUMENTS

EP	0 734 164 A2	9/1996
EP	1 033 880 A2	9/2000
WO	WO 98/42098 A1	9/1998
WO	WO 00/31964 AT	6/2000
WO	WO 01/97520 A2	12/2001

OTHER PUBLICATIONS

Moyano et al., "Efficient 3D wavelet transform decomposition for video compression," Digital and Computational Video, 2001. Proceedings of Second international workshop USA, IEEE, Feb. 8, 2001. pp. 118-125.*

Medialiving, A New Concept in Data Protection, ISO/IEC JTC 1/SC 29/WGI, No. N2881, Mar. 11, 2003, pp. 1-10.

* cited by examiner

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(57) ABSTRACT

A process for secured distribution of video sequences according to a digital stream format stemming from an encoding based on a processing by wavelets including frames including blocks containing coefficients of wavelets describing the visual elements, including analyzing the stream prior to transmission to client equipment to generate a modified main stream by deletion and replacement of selected information coding the original stream and having the format of the original stream, and complementary information of any format comprising the digital information coding the original stream and suitable for permitting reconstruction of the modified frames; and transmitting the modified main stream and the complementary information separately from a server to addressed equipment.

64 Claims, Drawing Sheet

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